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8227

26 March 1959

MEMORANDUM FOR: THE RECORD

SUBJECT : Trip Report,

25X1

1. Time and Place: New York City, 11 March 1959.
2. Persons in Attendance:

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3. P-227:

The main purpose of this meeting was to discuss the transistorized version of the wire analyzer prior to the packaging of the unit. All electronics have been designed and were checked by the undersigned at this meeting. The present status of the electronic circuitry is as follows:

(a) Electronic Volt Meter - This unit is basically a Burr-Brown instrument, completely transistorized, which has been modified slightly in order to incorporate the unit in the analyzer. It will have an AC range of .001 volts to 300 volts. Its frequency response will extend to 500 KC. The unit presently performs well within specifications and no future development for this circuit is envisioned.

(b) Oscillator - This unit has been completely transistorized and is presently performing well from 10 cycles to 500 KC. Its output is 3 volts RMS into a 600 ohm load. This circuit

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has been performing well as a separate breadboard item; however, minor problems have developed as a result of packaging configuration. One of the problems has been that of random oscillation of the output, from 3 volts to 1 volt. Future investigation is continuing for a stable output.

(c) Power Supply - The power supply is proceeding well with one major problem still to be eliminated. The power supply will presently handle 10 VA if the load is 10K or larger. Since the variable output of the power supply is controlled with a potentiometer, load impedances below 10 K cause high power dissipation in the potentiometer. Other output control circuits are being considered to allow a minimum of 30 ma drain for a load impedance of 1000 ohms. The voltage range of the power supply will be zero to 300 volts DC and zero to 230 volts AC.

(d) Meters - At this time it is anticipated that the transistorized version will have two meters instead of the 4 meters on the tube version. One meter will be an AC-DC volt meter, the other being an AC-DC milliammeter. The milliammeter will have a full scale deflection of 30 ma.

4. The transistorized version will contain two batteries. One battery will supply power to the oscillator audio amplifier and electronic volt meter. The other battery will supply power to the AC-DC power supply. Mercury cells are being considered with a possibility of recharging the cells. A battery check will be provided to test the battery for the oscillator audio amplifier and electronic volt meter. Present operating life of the batteries is expected to be in the order of 100 to 200 hours. This breaks down as follows:

- (a) Oscillator - 125 hours
- (b) Electronic Volt Meter - 125 hours
- (c) Audio Amplifier - 200 hours
- (d) AC-DC Power Supply - 35 minutes continuous operation, (60 tests of 20 to 30 second duration).

5. To extend battery life, all pilot lights have been eliminated.

6. The packaging of this unit was discussed and it was agreed that the total volume would not exceed 600 cubic inches. A preliminary estimate of dimensions was reached at 12" by 8" by 5".

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Total weight of the unit is envisioned at 13 pounds including batteries. It is planned that the final configuration of the unit will be discussed on 2 April between the undersigned and [REDACTED]. The first unit should be available for evaluation by mid April.

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7. Tube Version - Office of Security

Eighteen units remain to be tested for the Office of Security. This includes three units which have been sent back for modification. It is expected that all security units will be delivered by 17 April 1959. Two units under this production contract remain to be modified upon their return from the field.

8. Tube Version - ASD

This production contract calls for ten units similar to the Office of Security version with slight modifications. Five of these units have been requested by 1 April 1959. One unit has been completed and acceptance tests were conducted on it by the undersigned during the visit. On the basis of these tests, [REDACTED] was given the go ahead to build five more units of this type. These units will receive an evaluation by the undersigned on 2 and 3 April.

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9. The undersigned requested [REDACTED] to prepare a separate report on the oscillator development phase of this program. This report is expected by 15 April. In addition to this report, [REDACTED] will present a discussion of possible future additions to the transistorized version. [REDACTED]

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Distribution:

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[REDACTED] (27 March 1959)

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